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PATENT
Attorney Docket No. 440571

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Kenneth M. WILLIAMSON et al.

United States National Phase of
International Application
No. PCT/US00/26112

Art Unit: Unassigned

Filed: March 19, 2002

Examiner: Unassigned

For: FILTER ELEMENTS AND FILTERING
METHODS

PRELIMINARY AMENDMENT

Commissioner for Patents
Washington, D.C. 20231

Dear Sir:

Prior to calculation of the filing fee and the examination of the above-identified patent application, please enter the following amendments and consider the following remarks.

IN THE CLAIMS:

Replace the existing claims with:

3. A filter element as claimed in claim 1 wherein the first functional drainage layer has an edgewise flow resistance at most approximately 50% that of the filter layer.

4. A filter element as claimed in claim 1 wherein the first leg contacts the second leg of the same pleat and the second leg of an adjoining pleat over a substantially continuous region extending for a substantial portion of the height of the first leg and over at least fifty percent of an axial length of the filter element.

5. A filter element as claimed in claim 1 wherein the pleated composite includes a second functional drainage layer disposed on the second side of the filter layer and comprising a functional material and having a lower edgewise flow resistance than the filter layer.

6. A filter element as claimed in claim 1 wherein the first functional drainage layer comprises a porous fibrous sheet containing the functional material.
7. A filter element as claimed in claim 1 wherein the first functional drainage layer contacts the filter layer.
8. A filter element as claimed in claim 1 wherein the filter element is cylindrical.
9. A filter element as claimed in claim 1 wherein a plurality of the pleats each have a radially outer end displaced in a circumferential direction of the filter element with respect to a radially inner end of the pleat.
10. A filter element as claimed in claim 1 wherein the pleats are substantially parallel to each other.
14. A filter element as claimed in claim 1 wherein a drainage layer comprises a fibrous sheet in which particles of the functional material are integrated.
17. A filter element as claimed in claim 15 wherein the support plate is annular and an opening is at a radial center of the support plate.
20. A filter element as claimed in claim 18 wherein each of the drainage layers comprises a functional material.
21. A filter element as claimed in any of claim 18 wherein each of the filter layers and each of the drainage layers is substantially flat.
24. A method as claimed in claim 22 including passing the fluid in an axial direction of the filter element between opposite lengthwise ends thereof.

25. A method as claimed in claim 22 including passing the fluid primarily in an axial direction of the filter element through the first functional drainage layer.
26. A method as claimed in claim 22 including passing the fluid through the first functional drainage layer primarily along a height direction of the pleats.
27. A method as claimed in claim 22 wherein the filter element is cylindrical.
28. A method as claimed in claim 22 wherein the pleats are parallel to each other.